LONG ISLAND LIGHTING COMPANY
SHOREHAM NUCLEAR POWER STATION
P.O. BOX 618, NORTH COUNTRY ROAD • WADING RIVER, N.Y. 11792

SNRC-553

March 30, 1981

Mr. Boyce H. Grier
Office of Inspection and Enforcement
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Long Island Lighting Company
Shoreham Nuclear Power Station - Unit 1
Docket No. 50-322

Dear Mr. Grier:

On December 4, 1980 in accordance with 10CFR50.55 (e), we reported verbally to Region I a deficiency with cable terminations in Square D supplied 480V Motor Control Centers. A 30 day written report of this deficiency was submitted on December 30, 1980 (Ref. SNRC-524). This letter serves as a follow-up report.

Description of the Deficiency

Cases of deficient vendor terminations were discovered when construction electricians were terminating field cables in Motor Control Centers (MCC's). Further investigations determined that deficient vendor termination were present in both safety and non-safety related MCC's. The problems found appear to be caused by a lack of adequate quality control in the method in which cable terminations were made. Termination lugs on vendor wiring have been found insufficiently crimped such that conductors can fall out or easily be pulled out of their lugs. Other cases have been found where terminal block screws on devices have not been tightened to secure the termination lugs in place. In addition to these violations, others have been found where termination lugs have been bent further than permitted by criteria provided by the lug manufacturer and where the conductor has not been properly inserted into the lug before crimping. These deficiencies can cause intermittent or broken electrical circuits which might cause safety related equipment to fail to operate when required.

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Corrective Action

Acceptance criteria have been developed for inspection of vendor (Square D) terminations. All vendor terminations in every safety-related (Class IE) MCC will be inspected against this criteria; and if found to be deficient, they will be replaced.

There are presently 30 safety related (Class1E) MCC's installed at Shoreham. These MCC's are sub-divided into MCC cubicles which supply motors and other loads. The deficient terminationshave been found in these vendor wired cubicles. Each cubicle of these MCC's which contains vendor cable terminations will be inspected for deficient terminations and corrected where necessary. The inspection and replacement program will be carried out by two "teams". The first team will consist of contruction electricians working with inspectors from our Field Quality Control (FQC) organization. They will perform the inspection and repair of all MCC cubicles not presently turned over to Start-up. The second team will consist of Start-up electricians with inspectors from our Operational Quality Assurance (OQA) organization. They will be responsible to perform the repair work on all MCC cubicles presently turned over to Start-up. To date a total of 92 MCC's cubicles have been inspected and repaired between both teams, and they expect to complete the remaining cubicles by March, 1982.

Square D engineering and quality assurance have been apprised of this problem and will be kept informed as to the extent of deficiencies being found. To insure that no new Class IE MCC's or individual cubicles are purchased with this type of defect, Procurement Quality Assurance (PQA) will be directed to perform a 100% inspection of all vendor terminations. Where this proves to be infeasible FQC will be directed to perform this function after delivery of new equipment to the site.

Very truly yours,

J. P. Novarro
Project Manager
Shoreham Nuclear Power Station

TJS/gmm

cc: Mr. Victor Stello, Director
NRC Office of Inspection and Enforcement
Division of Reactor Operations Inspection
Washington, DC 20555

Mr. J. Higgins
NRC Trailer
Site